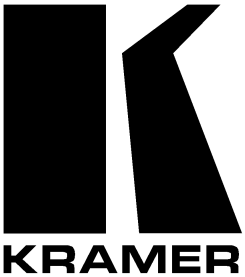
Kramer Electronics, Ltd.



USER MANUAL

Models:

VP-3xl, ***1:3 VGA/UXGA Distributor***

VP-4xl, ***1:4 VGA/UXGA Distributor***

VP-5xl, ***1:5 VGA/UXGA Distributor***

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1 Introduction

Welcome to Kramer Electronics (since 1981): a world of unique, creative and affordable solutions to the infinite range of problems that confront the video, audio and presentation professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better! Our 350-plus different models now appear in 8 Groups[1], which are clearly defined by function.

Congratulations on purchasing your Kramer **VP-3xl**, **VP-4xl**, and/or **VP-5xl**, which are ideal for:

- Any professional system requiring high quality VGA/UXGA distribution to multiple monitors and/or projectors
- Larger distribution systems, made by easily cascading several machines

The package includes the following items:

- **VP-3xl** *1:3 VGA/UXGA Distributor*, or **VP-4xl** *1:4 VGA/UXGA Distributor*, or **VP-5xl** *1:5 VGA/UXGA Distributor*
- Power cord
- This user manual[2]

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual
- Use Kramer high performance high resolution cables[3]

3 Overview

The high performance Kramer **VP-3xl**, **VP-4xl**, and **VP-5xl** are three distribution amplifiers (1:3, 1:4, and 1:5) for VGA/UXGA signals. Each machine:

1 GROUP 1: Distribution Amplifiers; GROUP 2: Video and Audio Switchers, Matrix Switchers and Controllers; GROUP 3: Video, Audio, VGA/XGA Processors; GROUP 4: Interfaces and Sync Processors; GROUP 5: Twisted Pair Interfaces; GROUP 6: Accessories and Rack Adapters; GROUP 7: Scan Converters and Scalers; and GROUP 8: Cables and Connectors

2 Download up-to-date Kramer user manuals from the Internet at this URL: http://www.kramerelectronics.com/manuals.html

3 The complete list of Kramer cables is on our Web site at http://www.kramerelectronics.com (click "Cables and Connectors" in the Products section)

- Includes front panel EQ. control
- Features two switches on the underside for ID Bit control
- Has video bandwidth that exceeds 375MHz, making them suitable for the highest resolution graphics signal distribution
- Accepts one input, provides necessary buffering and isolation, and distributes the signal to its identical outputs
- Is mains fed and is housed in a half 19" enclosure

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality and position your Kramer **VP-3xl**, **VP-4xl**, and/or **VP-5xl** away from moisture, excessive sunlight and dust

4 Your VGA/UXGA Distributor

This section describes each *VGA/UXGA Distributor*, as follows:

- **VP-3xl** (see section 4.1)
- **VP-4xl** (see section 4.2)
- **VP-5xl** (see section 4.3)

The underside of the *VGA/UXGA Distributor* is identical on the **VP-3xl**, **VP-4xl**, and **VP-5xl** (see section 4.4).

4.1 Your VP-3xl 1:3 VGA/UXGA Distributor

Figure 1, Table 1, and Table 2 define the **VP-3xl** *1:3 VGA/UXGA Distributor*:

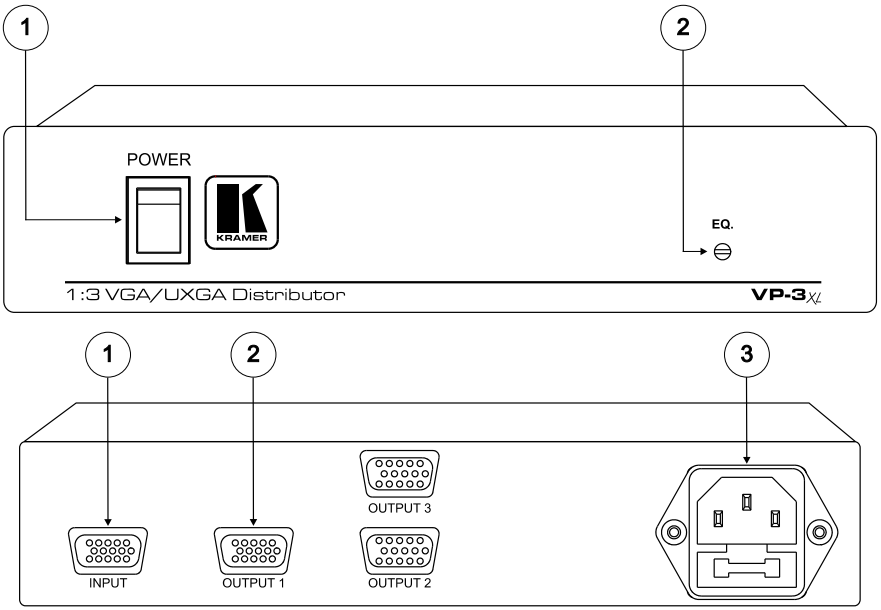

Figure 1: VP-3xl 1:3 VGA/UXGA Distributor

Table 1: Front Panel VP-3xl 1:3 VGA/UXGA Distributor Features

#	Feature	Function
1	*POWER* Switch	Illuminated switch for turning the unit ON or OFF
2	*EQ.* Trimmer	Adjusts[1] the video EQ. (equalization) compensation

Table 2: Rear Panel VP-3xl 1:3 VGA/UXGA Distributor Features

#	Feature	Function
1	*INPUT* HD15F Connector	Connect to the VGA/UXGA source
2	*OUTPUT* HD15F Connector	Connect to the VGA/UXGA acceptor (from 1 to 3)
3	Power Connector with *FUSE*	AC connector enabling power supply to the unit

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

4.2 Your VP-4xl 1:4 VGA/UXGA Distributor

Figure 2, Table 3, and Table 4 define the **VP-4xl** *1:4 VGA/UXGA Distributor*:

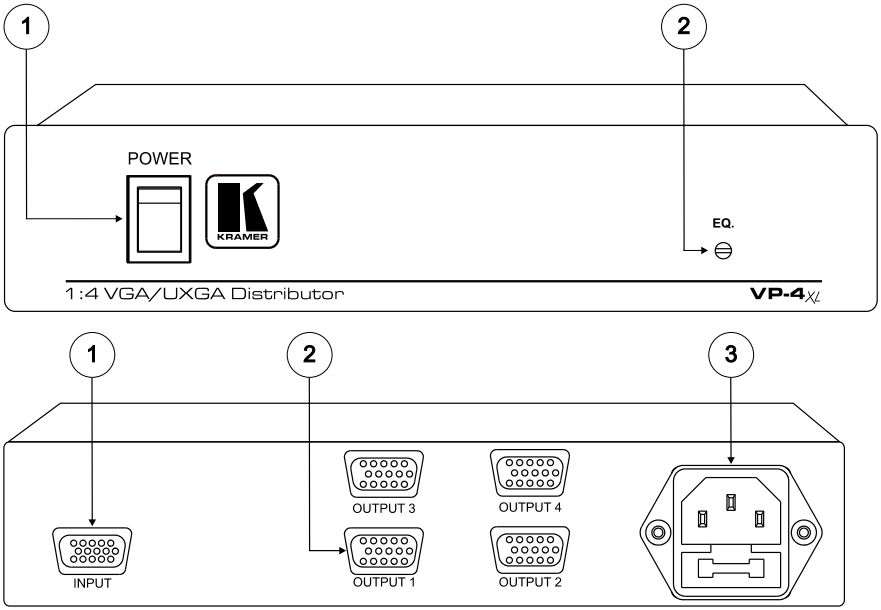

Figure 2: VP-4xl 1:4 VGA/UXGA Distributor

Table 3: Front Panel VP-4xl 1:4 VGA/UXGA Distributor Features

#	Feature	Function
1	*POWER* Switch	Illuminated switch for turning the unit ON or OFF
2	*EQ.* Trimmer	Adjusts[1] the video EQ. (equalization) compensation

Table 4: Rear Panel VP-4xl 1:4 VGA/UXGA Distributor Features

#	Feature	Function
1	*INPUT* HD15F Connector	Connect to the VGA/UXGA source
2	*OUTPUT* HD15F Connector	Connect to the VGA/UXGA acceptor (from 1 to 4)
3	Power Connector with *FUSE*	AC connector enabling power supply to the unit

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

4.3 Your VP-5xl 1:5 VGA/UXGA Distributor

Figure 3, Table 5, and Table 6 define the **VP-5xl** *1:5 VGA/UXGA Distributor*:

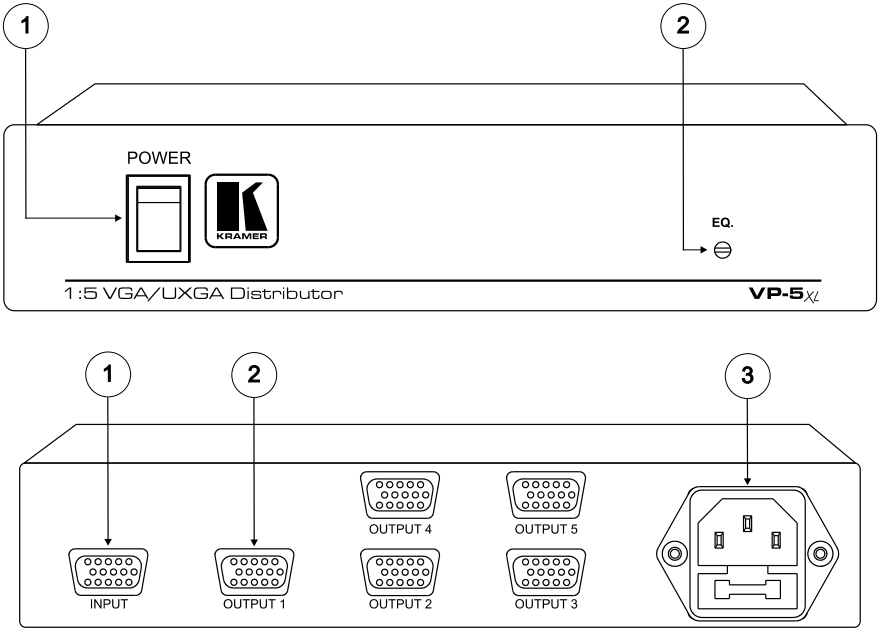

Figure 3: VP-5xl 1:5 VGA/UXGA Distributor

Table 5: Front Panel VP-5xl 1:5 VGA/UXGA Distributor Features

#	Feature	Function
1	*POWER* Switch	Illuminated switch for turning the unit ON or OFF
2	*EQ.* Trimmer	Adjusts[1] the video EQ. (equalization) compensation

Table 6: Rear Panel VP-5xl 1:5 VGA/UXGA Distributor Features

#	Feature	Function
1	*INPUT* HD15F Connector	Connect to the VGA/UXGA source
2	*OUTPUT* HD15F Connector	Connect to the VGA/UXGA acceptor (from 1 to 5)
3	Power Connector with *FUSE*	AC connector enabling power supply to the unit

1 Insert a screwdriver into the hole and carefully rotate it, to trim the level

4.4 Your VP-3xl, VP-4xl, and VP-5xl VGA/UXGA Distributor Underside

Figure 4 and Table 7 define the underside ID BIT Control switches:

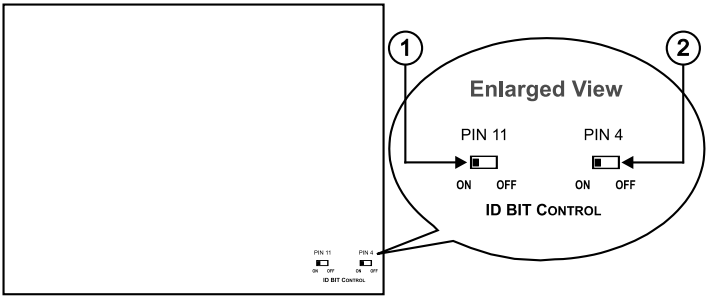

Figure 4: VGA/UXGA Distributor Underside

Table 7: VGA/UXGA Distributor Underside Features

#	Feature	Function
1	*PIN 11 ID BIT* CONTROL Switch	Slide to the left to set to ON[1]; to the right to set to OFF
2	*PIN 4 ID BIT* CONTROL Switch	Slide to the left to set to ON[1]; to the right to set to OFF

5 Using Your VGA/UXGA Distributor

You can use any *VGA/UXGA Distributor*—the **VP-3xl**, the **VP-4xl**, and/or the **VP-5xl**—to output the *VGA/UXGA* signal from a laptop or a PC.

To output the XGA signal from a laptop's digital graphics card to up to 5 monitors using a **VP-5xl** (as the example in Figure 5 illustrates), do the following:

1. Connect an XGA source (for example, a laptop's digital graphics card) to the INPUT HD15F connector.
2. Connect the OUTPUT HD15F connectors to up to 5 acceptors, as follows:
   - Connect the OUTPUT 1 connector to an acceptor (for example, Monitor 1)
   - Connect the OUTPUT 2 connector to an acceptor (for example, Monitor 2)
   - Connect the OUTPUT 3 connector to an acceptor (for example, Monitor 3)
   - Connect the OUTPUT 4 connector to an acceptor (for example, Monitor 4)
   - Connect the OUTPUT 5 connector to an acceptor (for example, Monitor 5)
3. On the underside of the **VP-3xl / VP-4xl / VP-5xl**:
   - Slide the PIN 11 ID BIT CONTROL switch to the left to set to ON
   - Slide the PIN 4 ID BIT CONTROL switch to the left to set to ON
4. Connect the power cord[2] (not illustrated in Figure 5).

1 The default. Enabling the notebook or laptop to output a VGA signal to an external VGA monitor

2 We recommend that you use only the power cord that is supplied with this machine

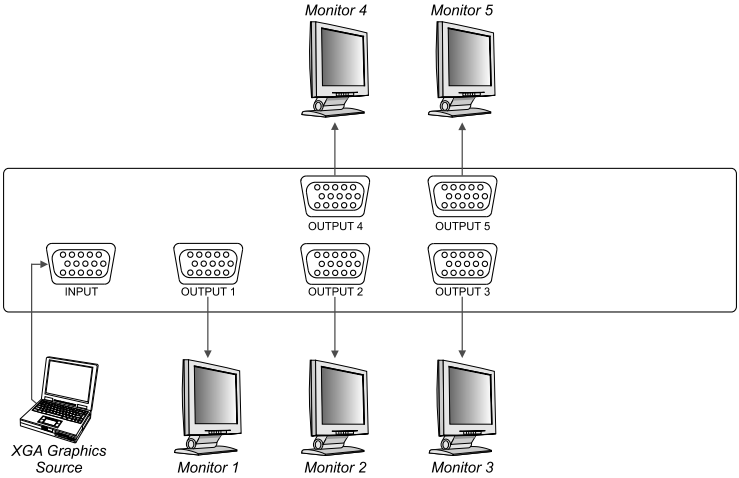

Figure 5: Connecting the VP-5xl to 5 Monitors

6 Technical Specifications

Table 8 includes the technical specifications:

Table 8: Technical Specifications[1] *of the VP-3xl / VP-4xl / VP-5xl VGA/UXGA Distributor*

INPUTS:	**VP-3xl/VP-4xl/VP-5xl**: 1 VGA/UXGA input on an HD15F connector
OUTPUTS:	**VP-3xl**: 3 VGA/UXGA outputs on HD15F connectors **VP-4xl**: 4 VGA/UXGA outputs on HD15F connectors **VP-5xl**: 5 VGA/UXGA outputs on HD15F connectors
MAX. OUTPUT LEVEL:	1.9Vpp
BANDWIDTH (-3dB):	375MHz, Fully Loaded
DIFF. GAIN:	0.12%
DIFF. PHASE:	0.28 Deg
K-FACTOR:	< 0.05%
S/N RATIO:	73.7dB
CONTROLS:	Pair of ID Bit Control switches on the underside; Cable EQ. control
COUPLING:	DC
POWER SOURCE:	100-240VAC, 50/60Hz, 4.3VA
DIMENSIONS:	22cm x 18cm x 4.5cm (8.7" x 7" x 1.7"), W, D, H, (half 19", 1U)
WEIGHT:	1.2kg (2.64lbs)
ACCESSORIES:	Power cord
OPTIONS:	19" rack adapter RK-80 (holds 2 units)

1 Specifications are subject to change without notice

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by Kramer, or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed.
3. Damage, deterioration or malfunction resulting from:
   - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
   - ii) Product modification, or failure to follow instructions supplied with the product
   - iii) Repair or attempted repair by anyone not authorized by Kramer
   - iv) Any shipment of the product (claims must be presented to the carrier)
   - v) Removal or installation of the product
   - vi) Any other cause, which does not relate to a product defect
   - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on you product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.
NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.
This equipment has been tested to determine compliance with the requirements of:

EN-50081:	"Electromagnetic compatibility (EMC); generic emission standard. Part 1: Residential, commercial and light industry"
EN-50082:	"Electromagnetic compatibility (EMC) generic immunity standard. Part 1: Residential, commercial and light industry environment".
CFR-47:	FCC Rules and Regulations: Part 15: "Radio frequency devices Subpart B – Unintentional radiators"

CAUTION!

- Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.
- Use the supplied DC power supply to feed power to the machine.
- Please use recommended interconnection cables to connect the machine to other components.

For the latest information on our products and a list of Kramer distributors, visit our Web site: www.kramerelectronics.com.
Updates to this user manual may be found at http://www.kramerelectronics.com/manuals.html.
We welcome your questions, comments and feedback.

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